D.3 Air Quality

This section addresses the environmental setting and impacts related to the Proposed Project and alternatives. Specifically, Section D.3.1 provides a description of the environmental baseline, followed by applicable regulations, plans, and standards in Section D.3.2. An environmental impacts analysis of the Proposed Project and alternatives is provided in Sections D.3.3 through D.3.6.

D.3.1 Environmental Baseline

Ambient air quality is influenced by the climate, meteorology, and topography of an area along with the quantity and type of pollutants released to the air. This section describes pertinent characteristics of the air basins through which the project travels. The project corridor extends from the Carquinez Strait Region of the San Francisco Bay Area air basin to the eastern edge of Yolo County in the Sacramento Valley air basin. The division of the two air basins occurs in Solano County, east of Fairfield.

D.3.1.1 Regional Overview

Climate and Meteorology. The study area traverses the eastern portion of the Carquinez Strait and southern Solano and Yolo Counties. Like much of northern California, it is characterized by moderately wet winters and dry summers. The regional climate is dominated by a strong and persistent high pressure system that frequently lies off the Pacific coast (generally known as the Pacific High). The Pacific High shifts northward or southward in response to seasonal changes or the presence of cyclonic storms. Besides the influence from the Pacific High, other important meteorological characteristics influencing air quality in the study area are the persistent temperature inversions, predominance of on shore winds, and prevalent sunlight.

Temperature and Precipitation. Temperatures are more moderated with proximity to the San Francisco Bay and become more extreme inland. The range of temperatures, however, is small. Average summertime high temperatures range from 85 to 90˚F near Martinez and Fairfield and from 90 to 95˚F near Davis and West Sacramento. Average wintertime low temperatures range from 35 to 40˚F throughout the project corridor. Annual rainfall (between 17 to 25 inches, on average) occurs almost exclusively between November and April (WRCC, 2002).

Prevailing Winds and Temperature Inversions. Prevailing winds are generally from the west. Storms and wintertime weather patterns occasionally cause transition and reversal of this flow, but during the summer months, cool marine air flows directly from the Carquinez Strait towards the warmer Sacramento and San Joaquin Valleys. Warmer air that lies over the marine layer creates a thermal inversion that prevents upward mixing of pollution generated at ground level. This causes the pollution potential in the Sacramento Valley to be greater than it is near the Carquinez Strait because the prevailing wind direction carries pollution towards the Sacramento Valley with limited vertical movement.

D.3.1.2 Environmental Setting: Proposed Project

Criteria Air Pollutants. With the assistance of the Bay Area Air Quality Management District (BAAQMD) and the Yolo-Solano Air Quality Management District (YSAQMD), the California Air Resources Board (CARB) compiles inventories and projections of emissions of the major pollutants and monitors air quality conditions. Air quality conditions are tracked for both "criteria air pollutants" and "toxic air contaminants."

Criteria air pollutants refer to a group of pollutants for which regulatory agencies have adopted ambient air quality standards and pollution reduction plans. Criteria air pollutants include ozone, carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), particulate matter, and lead. Toxic air contaminants (TACs) refer to a category of air pollutants that pose a present or potential hazard to human health, but which tend to have more localized impacts than criteria air pollutants. Reactive and volatile organic compounds and gases (ROC or VOC) are also regulated pollutants because they are precursors to ozone formation. Two subsets of particulate matter are inhalable particulate matter less than ten microns in diameter (PM_{10}) and fine particulate matter less than 2.5 microns in diameter ($PM_{2.5}$).

Ambient Air Quality. Historically, violations of federal and State ambient air quality standards for ozone, particulate matter, and CO have occurred throughout the project area. Since the early 1970s, substantial progress has been made toward controlling these pollutants. Although some air quality improvements have occurred, violations of ambient air quality standards for particulate matter and ozone are persistent. Ozone violations typically occur in the summer months, and PM_{10} violations tend to occur in the winter. The frequency of the violations, and the current air quality conditions, are summarized for ozone, PM_{10}, and CO in Table D.3-1. (The standards are discussed in more detail in Section D.3.2, Applicable Regulations, Plans, and Standards.)

Table D.3-1. Regional Ambient Air Quality Monitoring Data

		Ozone	Ozone	Ozone	PM_{10}	PM_{10}	PM_{10}	CO	CO
Monitoring Station		Days Over 1-hr State Standard	Max 1-hr (ppm)	Max 8-hr (ppm)	Days Over 24-hr State Standard	Max 24-hr (µg/m3)	Annual Average (µg/m3)	Max 1-hr (ppm)	Max 8-hr (ppm)
Concord	1998	13	0.147	0.109	6	66	17.9	5.7	3.8
	1999	8	0.156	0.122	18	64	20.8	4.9	3.1
	2000	2	0.138	0.094	6	54	17.8	4.5	2.7
	2001	6	0.134	0.087	12	106	20.3	4.4	2.7
Fairfield	1998	9	0.121	0.097	n/a	n/a	n/a	n/a	n/a
	1999	9	0.129	0.101	n/a	n/a	n/a	n/a	n/a
	2000	1	0.096	0.076	n/a	n/a	n/a	n/a	n/a
	2001	3	0.102	0.084	n/a	n/a	n/a	n/a	n/a
Vacaville	1998	10	0.137	0.101	6	56	17.2	n/a	n/a
	1999	8	0.140	0.106	18	66	19.8	n/a	n/a
	2000	2	0.100	0.081	0	47	18.3	n/a	n/a
	2001	2	0.104	0.081	12	77	20.2	n/a	n/a
Davis/West Sacramento	1998	9	0.115	0.095	7	63	21.8	2.5	1.1
	1999	9	0.117	0.094	48	126	30.7	2.4	1.4
	2000	5	0.103	0.089	30	79	25.7	2.5	1.3
	2001	5	0.100	0.093	30	95	27.4	n/a	3.35

Source: CARB Air Quality Data CD-R 2002.

Notes: State Standard = California Ambient Air Quality Standard (CAAQS)
ppm = parts per million
µg/m3 = micrograms per cubic meter; days over PM_{10} CAAQS is calculated based on monitoring every sixth day.
n/a = not available or not applicable

Station Locations:
- Concord: Treat Boulevard for all pollutants
- Fairfield: Gregory Street for ozone
- Vacaville: Elmira Road for ozone
- Vacaville: Merchant Street for PM_{10}
- Davis: UCD Campus for ozone and CO
- West Sacramento: 15th Street for PM_{10}

Emission Inventory. Existing emission sources in the project area include a diverse range of stationary sources, mobile sources, and smaller sources that are distributed area-wide. Notable stationary sources along the proposed route include the heavy industry of Contra Costa County and Solano County near the Carquinez Strait, such as petroleum refineries and electrical generating power plants, with additional heavy industry being mainly in West Sacramento. Mobile sources are commonplace throughout the suburban areas, including on-highway motor vehicles, heavy mobile equipment used for off-road purposes (e.g., construction equipment), and locomotives along the Union Pacific Railroad corridor. The regionwide emission inventories compiled by CARB include planning and forecast estimates for each of these groups of sources.

The existing SFPP Concord to Sacramento pipeline system (including the Concord and Sacramento Stations) is a stationary source of emissions. When petroleum products contact the ambient air, emissions of volatile and reactive organic compounds (VOC) will occur if the air escapes to the environment. Roughly 20 large storage tanks are located at the Concord Station. The tanks are temporary holding vessels for petroleum products before they are transported through the pipeline system. The emissions of VOC that occur from the storage tanks depend on the product being stored, the frequency of tank filling, the unique design of the tank, the type of vapor recovery and control system used at the tank, and the meteorological conditions during product storage. Along with VOC emissions from the storage tanks at Concord Station, there are smaller amounts of fugitive emissions that occur from piping and equipment carrying the petroleum products (e.g., from valves and flanges). There are no large storage tanks at the Sacramento Station. The emissions associated with current pipeline operations are summarized in Table D.3-2.

Table D.3-2. Existing Emissions from Pipeline Operations

Emission Source	VOC (average lb/day)	VOC (tpy)
Concord Station – storage tanks	202.1	36.9
Concord Station – piping and equipment	0.1	<0.02
Sacramento Station – piping and equipment	<0.1	<0.01

Source: SFPP, November 2002.

D.3.1.3 Environmental Setting: Existing Pipeline ROW Alternative

The Existing Pipeline ROW Alternative would occur in the same air quality setting as described for the Proposed Project.

D.3.1.4 Environmental Setting: No Project Alternative

The No Project Alternative would occur in the same air quality setting as described for the Proposed Project.

D.3.2 Applicable Regulations, Plans, and Standards

Ambient Air Quality Standards. The environmental quality of ground-level air (air quality) is determined by measuring ambient concentrations of pollutants that are known to have deleterious effects. The degree of air quality degradation is then compared to the current National and California Ambient Air Quality Standards (NAAQS and CAAQS). Regulation of air quality began in California before being coordinated at the national level, and the State-level standards established by the California Air Resources Board (CARB) tend to be more-stringent than those set forth by the USEPA. The standards currently in effect in California are shown in Table D.3-3.

Table D.3-3. National and California Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards	National Standards
Ozone (O_3)	1-hour	0.09 ppm	0.12 ppm
	8-hour	—	0.08 ppm
Respirable particulate matter (PM_{10})	24-hour	50 µg/m^3	150 µg/m^3
	Annual mean	20 µg/m^3(*)	50 µg/m^3
Fine particulate matter ($PM_{2.5}$)	24-hour	—	65 µg/m^3
	Annual mean	12 µg/m^3(*)	15 µg/m^3
Carbon monoxide (CO)	1-hour	20 ppm	35 pm
	8-hour	9.0 ppm	9.0 ppm
Nitrogen dioxide (NO_2)	1-hour	0.25 ppm	—
	Annual mean	—	0.053 ppm
Sulfur dioxide (SO_2)	1-hour	0.25 ppm	—
	24-hour	0.04 ppm	0.14 ppm
	Annual mean	—	0.03 ppm

Notes: ppm=parts per million; µg/m^3= micrograms per cubic meter; "—" = no standard
(*) These California standards for PM_{10} and $PM_{2.5}$ were approved in June 2002 and are expected to take effect in 2003.
Source: CARB Ambient Air Quality Standards Table, 2003.

Air quality standards are designed to protect those people most susceptible to respiratory distress, such as asthmatics, the elderly, very young children, people already weakened by other disease or illness, and people engaged in strenuous work or exercise. Table D.3-4 provides a summary of the health effects from the major criteria air pollutants.

Attainment Status. The CARB designates those portions of the State where federal or State ambient air quality standards are not met as "nonattainment" areas. Table D.3-5 summarizes the air quality attainment status for the Bay Area and Sacramento Valley air basins. Where a pollutant exceeds standards, the federal and State-level Clean Air Acts require air quality management plans that demonstrate how the standards will be achieved. These laws also provide the basis for the implementing agencies to develop mobile and stationary source performance standards. The regulatory programs are discussed below.

Table D.3-4. Summary of Health Effects of the Major Criteria Pollutants

Air Pollutant	Primary Health Effects
Ozone (O_3)	• Aggravation of respiratory and cardiovascular diseases • Impairment of cardiopulmonary function • Eye irritation
Respirable and fine particulates (PM_{10} and $PM_{2.5}$)	• Increased risk of chronic respiratory disease • Reduced lung function • Increased cough and chest discomfort • Particulate matter 10 microns or less in size (PM_{10}) may lodge in and/or irritate the lungs
Carbon monoxide (CO)	• Impairment of oxygen transport in the bloodstream, increase of carboxyhemoglobin • Aggravation of cardiovascular disease • Impairment of central nervous system function • Fatigue, headache, confusion, dizziness • Death at high levels of exposure • Aggravation of some heart diseases (angina)
Nitrogen dioxide (NO_2)	• Risk of acute and chronic respiratory disease
Sulfur dioxide (SO_2)	• Aggravation of respiratory diseases (asthma, emphysema) • Reduced lung function • Irritation of eyes

Source: South Coast Air Quality Management District, CEQA Air Quality Handbook, 1993.

Table D.3-5. Attainment Status of Bay Area and Sacramento Valley Air Basins

Air Basin	O_3		PM_{10}		CO		NO_2		SO_2	
	State	Federal	State	Federal	State	Federal	State	Federal	State	Federal
Bay Area	Serious Nonattainment	Moderate Nonattainment	N	A	A	A	A	A	A	A
Sacramento Valley	Serious Nonattainment	Severe Nonattainment	N	A[1]	A	A	A	A	A	A

Source: CARB, 2002 (http://www.arb.ca.gov/desig/desig.htm) and USEPA, 2002 (http://www.epa.gov/region09/air/).
Note: A = Attains Ambient Air Quality Standards; N = Nonattainment.
[1] Solano and Yolo Counties are in attainment with federal PM_{10} standards; Sacramento County is a nonattainment area for PM_{10}.

D.3.2.1 Federal

The federal Clean Air Act directs the attainment and maintenance of National Ambient Air Quality Standards (NAAQS). The 1990 Amendments to the Clean Air Act established programs for attainment and maintenance of NAAQS (Title I), motor vehicles and fuel reformulation (Title II), hazardous air pollutants (Title III), acid deposition (Title IV), operating permits (Titles V), stratospheric ozone protection (Title VI), and enforcement (Title VII).

The U.S. Environmental Protection Agency (USEPA) establishes the requirements for New Source Review (NSR), including the Prevention of Significant Deterioration (PSD) program. PSD applies to major new sources and modifications in areas where ambient air quality attains the NAAQS and nonattainment NSR applies for major new sources of nonattainment pollutants or their precursors. The local NSR programs are identified in the discussion below.

If a federal approval is necessary for any portion of project (e.g., Section 10/404 approval from the U.S. Army Corps of Engineers [USACE]), then that portion of the project would need to comply with federal general conformity requirements that specify the project conform with the State Implementation Plan (SIP) for attaining the federal standards. No general conformity evaluation would be necessary for this CEQA (State-level) document, but it may be appropriate during review by the federal permitting agency (USACE).

D.3.2.2 State

State-level regulations and laws provide the basis for certain potentially applicable requirements.

- **California Health and Safety Code, Division 26 Air Resources, Part 6 Air Toxics Hot Spots Information and Assessment, Section 44300.** Requires an inventory of air toxics emissions from individual existing facilities, an assessment of health risk, and notification of potential significant health risk when found to be present.
- **California Health and Safety Code, Division 26 Air Resources, Chapter 6 Facility Toxic Air Contaminant Risk Reduction Audit and Plan, Section 44390.** Provides guidelines to identify a more realistic health risk, requires high risk facilities to submit an air toxic emission reduction plan, holds air districts accountable for ensuring that the plans will achieve their objectives and that high risk facilities will be required to achieve their planned emission reduction.
- **California Health and Safety Code, Division 26 Air Resources, Part 4 Nonvehicular Air Pollution Control, Chapter 4 Enforcement, Section 42301.6.** Requires new or modified sources of air contaminants located within 1,000 ft. from the outer boundary of a school to give public notice to the parents of school children before an air pollution permit is granted.
- **Section 21151.4 of the California Public Resources Code, Division 13 Environmental Quality, Chapter 4 Local Agencies.** Addresses Hazardous Air Pollutant releases within one-fourth mile of a school site.
- **California Air Resources Board, Statewide Portable Equipment Registration Program.** Allows operation of portable equipment throughout California without having to obtain individual permits from local air districts.

D.3.2.3 Regional and Local

Bay Area Air Quality Management District Rules

The NSR program for new or modified stationary sources in the jurisdiction of the BAAQMD is codified in Regulation 2, Rule 2. The BAAQMD also administers a toxic air contaminant control program that is partially included in Regulation 2 to reduce public exposure to toxic air contaminants. Specific regulations that may apply to the project are listed below.

- **BAAQMD Regulation 2, Rule 1, General Requirements.** Prohibits any source from causing a public nuisance.
- **BAAQMD Regulation 8, Rule 5, Storage of Organic Liquids.** Limits the emissions from the storage and transfer of liquids containing reactive organic compounds, including requirements for design and operation of storage tanks.
- **BAAQMD Regulation 8, Rule 6, Organic Liquid Bulk Terminals and Bulk Plants.** Includes limitations on operation and design of facilities that store and load non-gasoline organic liquids.
- **BAAQMD Regulation 8, Rule 15, Emulsified and Liquid Asphalts.** Limits the emissions of volatile organic compounds caused by the use of emulsified and liquid asphalt in paving materials and paving and maintenance operations.
- **BAAQMD Regulation 8, Rule 33, Gasoline Bulk Terminals and Gasoline Delivery Vehicles.** Requires control of organic emissions from gasoline transfer and loading operations.
- **BAAQMD Regulation 7, Odorous Substances.** Includes an odorous substance control program to control the use and emission of odorous substances.

Yolo-Solano Air Quality Management District Rules

The NSR program for stationary sources in the jurisdiction of the YSAQMD is published in YSAQMD Regulation III, Permit System. A program for review of new sources of toxic air contaminants is in YSAQMD Rule 3.13. Prohibitions for certain source categories are in YSAQMD Regulation II, Prohibitions, Exceptions. Specific regulations that may apply to the project are listed below.

- **YSAQMD Rule 2.5, Nuisance.** Restricts any activities that might cause a nuisance, including dust or odors.
- **YSAQMD Rule 2.21, Organic Liquid Storage and Transfer.** Limits the emissions from the storage and transfer of liquids containing reactive organic compounds, including requirements for design and operation of terminal stations and storage tanks.
- **YSAQMD Rule 2.23, Fugitive Hydrocarbon Emissions.** Requires identification and control of emissions of reactive organic gases that may occur at pipeline transfer stations and terminals, including emissions from valves, pressure relief devices, and storage tanks.
- **YSAQMD Rule 2.28, Cutback and Emulsified Asphalts.** Limits the emissions of organic compounds from the use of cutback and emulsified asphalts in paving materials, paving, and maintenance operations.

D.3.3 Environmental Impacts and Mitigation Measures for the Proposed Project

D.3.3.1 Introduction

Short-term construction impacts and long-term operational impacts would result from implementation of the Proposed Project. In this section, the potential impacts associated with the construction and operation of the Proposed Project are analyzed.

D.3.3.2 Definition and Use of Significance Criteria

Adverse impact on air quality would be considered significant and would require additional mitigation if project construction or operation would:

- Violate, substantially contribute to existing violation of, or interfere with attainment of federal or State air quality standards due to emissions from equipment or operations, or from fugitive dust.
- Cause objectionable odors offsite.
- Increase soil or wind erosion rates such that degradation of air quality would result in violation of air quality standards.
- Conflict with, or significantly delay the implementation of, applicable air quality management plans.

To interpret these criteria, each air quality management/control district establishes a host of recommendations for lead agencies to follow, based on the specific air quality concerns of the district.

For short-term construction of the project, the BAAQMD has developed an analytical approach that obviates the need to quantitatively estimate these emissions (BAAQMD, 1999). The BAAQMD recommends that a standard set of feasible PM_{10} control measures be implemented for all construction activities. Emissions of other contaminants (NOx, VOC, CO, and SO_2) that would occur in the exhaust from heavy equipment are included in the regionwide inventory that is the basis for regional attainment and are not expected to impede attainment of maintenance of the ambient air quality standards. In contrast, the YSAQMD recommends quantification of daily construction emissions to determine if a significant impact would occur (YSAQMD, 2002). Table D.3-6 shows the levels of emissions that would cause a significant air quality impact in the BAAQMD and the YSAQMD.

Table D.3-6. Air Quality Significance Thresholds

Pollutant	BAAQMD (Operation Only) (lb/day)	BAAQMD (Operation Only) (tpy)	YSAQMD (Construction or Operation) (lb/day)	YSAQMD (Construction or Operation) (tpy)
NOx	80	15	82	15
VOC	80	15	82	15
PM_{10}	80	15	150	25

Sources: BAAQMD, 2000; YSAQMD 2002.

For ongoing operation of the project, the BAAQMD and YSAQMD both recommend that project operational emissions be quantified and compared to significance thresholds for NOx, VOC, and PM_{10}. The thresholds for project operation in the BAAQMD are 80 pounds per day of NOx, VOC, or PM_{10}, as shown in Table D.3-6. The YSAQMD thresholds are similarly expressed in pounds per day or tons per year (tpy). Total operational emissions evaluated under these thresholds include all emissions from new stationary sources and any new motor vehicle use that would be induced by the project.

D.3.3.3 Impacts of Pipeline Construction

Construction activities would involve mobilizing a work force of nearly 300 people, delivering and removing construction materials, digging the trench and boring water crossings, and assembling the proposed pipeline over the entire 70.7-mile pipeline system. Multiple spreads and staging areas would be active simultaneously. Construction equipment in use for any given spread would vary, but cranes, pipelayers, excavators, backhoes, bulldozers, welding machines, power generators, air compressors, and other support

vehicles would all be used. Construction progress would vary along the mainline spread throughout the anticipated eight-month period.

Pipeline construction emissions can be distinguished as onsite and offsite. Onsite air pollutant emissions during construction would principally consist of exhaust emissions from mobile heavy duty diesel and gasoline-powered construction equipment, as well as fugitive particulate matter (dust) from material handling. Offsite exhaust emissions would result from the commuting of workers to staging areas, transporting workers from staging areas to work sites, from trucks hauling pipe and other materials to the construction spread, dump trucks hauling away dirt displaced by the pipe, and trucks hauling away shattered asphalt and delivering fresh asphalt to the construction sites.

Segment-by-Segment Discussion and Wickland Connection

A segment-by-segment discussion of air quality impacts is not provided because construction emissions from the mobile equipment would occur throughout the region as work progresses and would not remain long in any one area. Mainline work, street work, station work, and boring and drilling work for the entire 70.7-mile pipeline system, including the 4,100-foot Wickland Connection, are incorporated into the following air quality impact discussions.

Phase 1 and Phase 2 Carquinez Strait Crossing

The construction emissions estimated below assume construction of the Phase 1 Carquinez Strait crossing. The Phase 2 crossing, which would include an approximately 6,000-foot directional drill below the Strait, would have construction emissions greater than the Phase 1 crossing because Phase 1 requires minimal construction to connect with the existing pipeline. However, Phase 2 would be constructed 10 to 12 years in the future, so emissions would not be concurrent with those of the Proposed Project. Because Phase 2 will be the subject of a subsequent CEQA analysis, its impacts will be considered in the context of the BAAQMD requirements that exist at the time of construction.

Impact A-1: Onsite Equipment Exhaust Emissions

Emissions of equipment exhaust could substantially contribute to existing violations of ozone standards during the construction period. (Significant, Class I)

Impact Discussion

Calculation of onsite construction emissions depends on an analysis of construction study plans and scheduling. SFPP provided estimates of equipment use and fuel requirements. Based on the fuel demands, the emissions from fuel combustion by the heavy equipment were estimated. SFPP estimates that approximately 4,950 gallons of diesel fuel could be consumed daily during the entire construction effort. Factors for estimating combustion exhaust contaminant quantities (NOx, VOC, PM_{10}, CO, and SOx) are available from the U.S. EPA and CARB. Equipment emissions vary widely depending on the age, size, and upkeep of each piece of equipment. In attempts to avoid excessive emissions from construction equipment, SFPP proposed using a fleet of newer equipment for this project. U.S. EPA and CARB limits on emissions from non-road equipment require post-1996 equipment to emit reduced levels of NOx and PM_{10}. By using a modern fleet of construction equipment, much of the equipment used for the Proposed Project would likely meet the newer standards. SFPP also developed a construction activity plan that would stagger emissions from the hydro test and cleaning phase to avoid excessive single-day emissions, and certain equipment would be electrified. The emission rates for onsite construction equipment are summarized for each spread in Table D.3-7.

Table D.3-7. Emissions from Construction of Proposed Project

Construction Activity	NOx (lb/day)	VOC (lb/day)	PM_{10} (lb/day)	CO (lb/day)	SOx (lb/day)	NOx (tpy)	VOC (tpy)	PM_{10} (tpy)	CO (tpy)	SOx (tpy)
Onsite equipment, mainline	369.5	41.4	24.2	155.6	11.5	29.8	3.4	2.0	12.7	1.0
Onsite equipment, street work	224.5	27.1	16.0	99.0	8.7	18.3	2.2	1.3	8.1	0.8
Onsite equipment, boring/drilling	434.7	47.4	28.1	181.5	11.1	24.5	2.7	1.6	10.2	1.0
Onsite equipment, station work	104.5	15.1	9.1	51.6	3.8	5.8	0.8	0.5	2.8	0.3
Off-site, on-highway vehicles	132.4	27.4	4.6	234.2	1.0	11.7	2.4	0.4	20.6	0.1
Fugitive dust			216.1					19.0		
Total construction	**1265.7**	**158.4**	**298.1**	**721.9**	**36.1**	**90.1**	**11.5**	**24.9**	**54.4**	**3.2**
YSAQMD portion of construction	632.5	79.2	148.7	360.7	18.0	45.0	5.7	12.4	27.2	1.6
YSAQMD significance threshold	**82**	**82**	**150**	**None**	**None**	**15**	**15**	**15**	**None**	**None**

Source: KMEP/URS, 2003.

In the BAAQMD, construction emissions are included in the regional inventory that is the basis for attainment planning, so they would not obstruct attainment of the ozone standards or delay implementation of the air quality management plans. However, construction emissions are evaluated differently in the YSAQMD. While the YSAQMD maintains an inventory similar to that of the BAAQMD for planning, the YSAQMD believes that these construction emissions could conflict with ozone attainment in the Sacramento Valley, and that emissions over the threshold would substantially contribute to existing violations of the ozone standards. Slightly less than one-half of all construction emissions associated with the Proposed Project would occur in the jurisdiction of the YSAQMD, as shown in Table D.3-7. Equipment exhaust emissions from the Proposed Project would exceed the 82 pound per day (15 ton per year) significance threshold for NOx in the jurisdiction of the YSAQMD. Because the eight-month construction schedule would substantially contribute to existing violations in the Sacramento Valley during one ozone season (one summer), the NOx emissions of the Proposed Project would cause a short-term significant impact (Class I).

Mitigation for equipment exhaust emissions can be provided by a range of strategies that involve emissions control or avoidance. Controlling equipment exhaust emissions can be accomplished by managing the construction schedules and phases, using specialized clean-burning equipment and fuels, or maintaining proper performance of the equipment. Avoiding emissions from construction equipment can be accomplished by electrifying equipment that would traditionally run on diesel fuel or gasoline or by managing construction activities to avoid unnecessary equipment use. The YSAQMD and BAAQMD each recommend controlling or avoiding construction equipment exhaust emissions for mitigating this type of impact.

Postponing certain phases of project construction, or extending the project construction duration, to reduce daily construction-related emissions was investigated as a potential mitigation method. While this approach would reduce emissions on a daily basis, it would prolong the duration of the impacts. Another option would be build most components of the pipeline during the winter rainy season, but construction in this season is generally prohibited by regulatory agencies because it would increase the likelihood of impacts related to stormwater pollution and soil erosion, especially in areas with high water tables. SFPP has also expressed concerns that the economic viability of the project may be threatened by extending project construction into two summer seasons. Because of the potentially adverse environmental consequences, altering the proposed construction schedule is not recommended as a mitigation measure.

Other air quality management strategies that normally apply to permanent stationary emissions sources were considered but rejected as methods of mitigating short-term construction emissions. One example would be to surrender emission reduction credits to offset the construction emissions. As discussed earlier, construction emissions would be short-term. After completing the SFPP work, the equipment would be used for other jobs elsewhere, possibly outside of the region. Surrendering permanent emission reduction credits would not be an appropriate mitigation strategy for the construction impacts because the equipment is mobile and would affect air quality only on a short-term basis. Additionally, strategies that prescribe a specific proprietary fuel or add-on control device are not recommended by YSAQMD or BAAQMD. This is mainly because of variable or uncertain effectiveness of the available technologies. Instead, the mitigation recommendations are non-specific, for example, to use alternatively fueled or clean-fueled equipment where possible.

The following mitigation measure would implement the YSAQMD and BAAQMD recommendations for reducing construction equipment impacts by requiring use of a modern equipment fleet, with some equipment electrified, as feasible. Implementation of the following mitigation measure would ensure that the emission estimates presented in Table D.3-7 are not exceeded.

Mitigation Measure for Impact A-1: Onsite Equipment Exhaust Emissions

A-1a Control Equipment Emissions. SFPP or its construction contractor shall minimize NOx, VOC, and PM_{10} emissions from on-site construction equipment through the use of the strategies listed below, or similar strategies authorized by the applicable Air Quality Management District that result in an equivalent level of emission reduction. Each piece of equipment must be certified for compliance and documentation must be maintained at staging areas.

- **Use diesel engines that meet, at a minimum, 1996 CARB or U.S. EPA certified standards for off-road equipment that have a rating of more than 100 horsepower. This may be accomplished by installing high pressure diesel injectors and retard injection timing on any off-road equipment that was manufactured prior to 1996.**
- **Use either ultra-low sulfur diesel fuel (15 parts per million sulfur content) or alternative fuels (for example, reformulated fuels, emulsified fuels, compressed natural gas, or power with electrification). Low sulfur diesel fuel (500 parts per million sulfur content) shall be used only if evidence is obtained and maintained from the fuel supplier(s) that ultra-low sulfur diesel fuel is unavailable. Alternative diesel fuels shall be used only if they have been verified for emission reductions by the California Air Resources Board.**
- **Use only electric-powered mud tank cleaning systems including pumps. This would eliminate certain large diesel engines during directional drilling.**
- **Operate any equipment associated with the hydrotest and pipeline cleaning phase only when the use of all other equipment is completed.**
- **Use catalyzed diesel particulate filters (soot filters) on diesel engines that have a rating of more than 100 horsepower, where feasible.**
- **Maintain and operate all construction equipment so that exhaust emissions do not exceed 40% opacity for more than three minutes in any one-hour period. Equipment that exceeds this opacity standard shall be removed from operation and repaired upon the earliest safe opportunity.**
- **Avoid prolonged idling of equipment unless necessary to maintain a safe construction environment.**
- **Maintain all construction equipment in good condition and proper tune.**

Residual Impact. After implementation of Mitigation Measure A-1a, the emissions from construction equipment would remain above the significance thresholds presented in Table D.3-6. As required by CEQA, all feasible measures have been identified to reduce the impacts. Because the impacts of construction activities would be short-term (limited to eight months), project-related construction emissions would not conflict with or significantly delay implementation of air quality management plans in the Bay Area. The residual impact would, however, substantially contribute to existing violations of State and federal ozone standards in the Sacramento Valley (YSAQMD) for the short-term duration of construction. **This significant impact would require presentation of a Statement of Overriding Considerations as part of project approval.**

Impact A-2: Particulate Emissions

Emissions of airborne dust could substantially contribute to existing violations of PM_{10} standards during the construction period. (Potentially Significant, Class II)

Impact Discussion

Heavy equipment exhaust emissions would be accompanied by onsite fugitive particulate emissions. Dust would be generated from all aspects of activity on unpaved or uncovered surfaces, and dust would be generated from material handling during trenching and backfilling. Fugitive PM_{10} emissions were estimated using PM_{10} factors from the CARB URBEMIS model. The procedures rely on estimates of the acreage disturbed by heavy equipment at any given time and estimates of the vehicle miles traveled by heavy equipment. During the eight-month work schedule along the 70.7-mile pipeline system, approximately 32 acres of unpaved area could be disturbed during any given month. A similar disturbance would occur in paved streets, where on-highway vehicles would cause emissions particles from travel on paved surfaces. Without dust control, more than 300 pounds per day of PM_{10} could occur from the unpaved areas.

To avoid a potentially significant impact, SFPP proposes to control fugitive dust, mainly from the unpaved areas. With implementation of dust control, approximately 80 pounds per day PM_{10} would be generated by construction activity on unpaved areas, and 136 pounds per day PM_{10} would occur due to construction vehicle traffic on paved surfaces, as shown in Table D.3-8. Slightly less than one-half of these emissions (108 lb/day) would occur in the jurisdiction of the YSAQMD. The fugitive dust emissions for the entire project are summarized with other construction emissions in Table D.3-7.

Table D.3-8. Fugitive Dust Emissions from Construction

Construction Activity	PM_{10} (lb/day)	PM_{10} (tpy)
Unpaved areas, unmitigated	318.0	28.0
Unpaved areas, with dust control	79.5	7.0
Travel on paved surfaces	136.6	12.0
Fugitive dust total, mitigated	**216.1**	**19.0**
YSAQMD portion of fugitive dust	107.7	9.5
YSAQMD significance threshold	**150**	**15**

Source: KMEP/URS, 2003.

Construction-related fugitive dust emissions in the jurisdiction of the YSAQMD would not exceed the 150 pound per day significance threshold for PM_{10} established by YSAQMD. Total construction-related particulate matter in the YSAQMD, including equipment exhaust emissions, in Table D.3-7, would be 149 pounds per day, a level that would not substantially contribute to existing violations of PM_{10} State ambient air quality standards. To achieve less than 108 lb/day of fugitive dust PM_{10} in the YSAQMD requires implementation of dust control measures (defined in Mitigation Measure A-2a below).

Without these measures, the PM_{10} emissions could locally exacerbate violations of the standards, and in the vicinity of residences or workplaces, dust could be considered a nuisance that would violate BAAQMD Regulation 2, Rule 1, or YSAQMD Rule 2.5. Because construction dust during the eight-month construction schedule could cause a nuisance and would have the potential to locally contribute to existing violations of PM_{10} standards, these emissions would cause a short-term potentially significant impact (Class II), mitigable to less than significant levels with implementation of Mitigation Measure A-2a.

Mitigation Measure for Impact A-2: Particulate Emissions

A-2a Control Dust and Particulate Emissions. SFPP or its contractor shall control airborne dust and PM_{10} by implementing the recommendations of the Bay Area Air Quality Management District and Yolo-Solano Air Quality Management District as listed below, or similar strategies authorized by the applicable Air Quality Management District that result in an equivalent level of emission reduction.

- **Water all active construction areas at least twice daily, as dictated by local soil and wind conditions to maintain continuously moist soil.**
- **Cover all trucks hauling soil, sand, and other loose materials or require all trucks to maintain at least two feet of freeboard.**
- **Pave, apply water to maintain continuously moist soil, or apply (non-toxic) soil stabilizers on all unpaved access roads, parking areas, and staging areas.**
- **Sweep daily (with water sweepers) all paved access roads, all active parking areas, and active staging areas, except where prohibited by local storm-water runoff and discharge ordinances or laws.**
- **Sweep streets daily (with water sweepers) if visible soil material is carried onto adjacent public streets, except where prohibited by local storm-water runoff and discharge ordinances or laws.**
- **Hydroseed or apply (non-toxic) soil stabilizers to inactive construction sites greater than four acres in area (previously graded areas inactive for more than 10 days).**
- **Enclose, cover, water twice daily or apply (non-toxic) soil binders to exposed stockpiles (dirt, sand, etc.).**
- **Limit traffic speeds on unpaved roads to 15 mph.**
- **Install sandbags or other erosion control measures to prevent silt runoff to public roadways.**
- **Replant vegetation in disturbed areas as quickly as possible, except where prohibited by landowner.**
- **Wash off the tires or tracks of all trucks and street-legal construction equipment leaving unpaved sites greater than four acres in area to paved roads.**
- **If visible emissions of fugitive dust persist beyond a distance of 200 feet from the boundary of the construction site, all feasible measures shall be implemented to eliminate potential nuisance conditions at off-site receptors (e.g., increase frequency of watering or dust suppression, install temporary wind breaks where appropriate, suspend excavation and grading activity when winds exceed 25 mph).**

Residual Impact. With implementation of Mitigation Measure A-2a, nuisance conditions would be avoided, and particulate emissions and fugitive dust would be controlled (Impact A-2) to a level that would be below District significance thresholds.

Impact A-3: Offsite Pipeline Construction Emissions

Emissions of motor vehicle exhaust could substantially contribute to existing violations of ozone and PM_{10} standards during the construction period. (Potentially Significant, Class II)

Impact Discussion

Emissions would be generated by offsite and on-highway mobile sources used to transport personnel, materials, and equipment to and from each work spread. Laborers would meet daily at one of four staging areas and go to the construction site in work vans, pickup trucks, and other light-duty vehicles. Heavy-duty truck trips would also be required to haul pipe and other materials to and from the work spreads. SFPP provided estimates of vehicle trips and mileage that would be traveled for mobilizing the entire workforce and materials. With carpooling and shuttling efforts proposed by SFPP, light-duty vehicles would travel approximately 1.3 million miles over the eight-month work schedule. Heavy-duty vehicles would travel approximately 0.7 million miles. Composite emission factors for the vehicle fleet were applied to these mileage estimates to estimate the vehicle exhaust emissions. Table D.3-7 shows the offsite emissions with emissions from the other construction activities. The impact of offsite and on-highway motor vehicle emissions would be potentially significant because it would contribute to short-term significant impacts from other construction activities identified above (Impact A-1).

To ensure that carpooling and shuttling efforts are implemented along with additional feasible mitigation, the following mitigation measure is recommended to reduce impacts to less than significant levels (Class II).

Mitigation Measure for Impact A-3: Offsite Pipeline Construction Emissions

A-3a Transportation Management. SFPP or its construction contractor shall implement transportation management strategies that minimize the vehicle miles traveled and the number of vehicle trips necessary to mobilize the construction workforce and materials. Specific requirements are identified below, or SFPP may implement similar strategies authorized by the applicable Air Quality Management District that result in an equivalent level of emission reduction.

- **Provide carpooling and shuttling of workers from the staging areas to the work spreads.**
- **Dispose of excess soil and broken asphalt by exporting it to the nearest feasible destination.**
- **Obtain construction materials including heavy equipment, pipe, backfill, and asphalt from the nearest feasible location.**

Residual Impact. With this measure, the offsite and on-highway motor vehicle emissions would be reduced to approximately 132 pounds per day of NOx. The portion of these emissions that would occur in the jurisdiction of the YSAQMD would be slightly less than one-half (66 pounds per day NOx). The mitigated emissions would not exceed the YSAQMD significance thresholds. Therefore, implementation of Mitigation Measure A-3a would reduce the impact of offsite and on-highway motor vehicle emissions (Impact A-3) to less than significant levels (Class II).

Impact A-4: Offsite Traffic Congestion

Traffic disruptions during construction could cause traffic congestion on area roadways. Increased traffic congestion could cause localized violations of ambient air quality standards. (Less Than Significant, Class III)

Impact Discussion

Construction would occur in many roadways that serve the area's suburban transportation demands. If construction disrupts traffic and causes substantial congestion, motor vehicle exhaust could build-up near the congestion under certain stagnant weather conditions. These circumstances can lead to localized violations of carbon monoxide standards. However, CO concentrations in the region have not violated the standards since 1991, and for any roadway that does not operate in a severely congested mode, potential violations of the CO standards are extremely unlikely. This is because tailpipe concentrations have been greatly reduced in recent years, and when traffic is free-flowing, the pollutant is able to dissipate. At severely congested intersections, CO buildup could occur, yet it is still unlikely. Appropriate traffic management around street spreads would seek to avoid severely congested conditions. Section D.12, Transportation and Traffic, recommends appropriate measures, which would avoid localized air quality impacts. This impact would be less than significant (Class III).

Mitigation Measure. None required.

Residual Impact. The potential for offsite traffic congestion to cause violations of ambient air quality standards during construction (Impact A-4) would be less than significant.

D.3.3.4 Impacts of Pipeline Accidents

Impact A-5: Pipeline Accidents

In the event of a pipeline accident, petroleum products could be exposed to the atmosphere causing emissions of volatile organic compounds and adverse short-term health effects. (Less Than Significant, Class III)

Impact Discussion

Pipeline accidents are discussed in detail in Section D.2, Pipeline Safety and Risk of Accidents. An accident that would release hydrocarbons to the atmosphere could have significant adverse impacts in many areas, including public health and air quality. With regard to public health, ingestion of gasoline or inhalation of gasoline vapor at airborne concentrations exceeding 1,000 parts per million (ppm) may cause signs and symptoms of central nervous system depression, such as headache, dizziness, loss of appetite, weakness and loss of coordination. Vapor concentrations exceeding 5,000 ppm may cause loss of consciousness or a coma.

Nearly all of the proposed pipeline and its components would be underground or submerged. If an accident contaminated soils or surface waters that were exposed to the atmosphere, the refined petroleum products (e.g., gasoline or diesel fuel) would evaporate. This could lead to potentially high concentrations of gasoline vapors and short-term adverse health effects. While many safety measures can reduce the size and likelihood of a pipeline accident, it is not possible to completely eliminate the risk of an accident. Nevertheless, the mitigation measures that would enhance safety by either prevention of accidents or rapid and effective spill response would also reduce the potential for significant adverse

health effects or air quality impacts. Based on the low probability of occurrence of such an accident over the 50-year life of the project, the impacts are considered adverse, but not significant (Class III).

With regard to potential violations of air quality standards, the released hydrocarbons may contribute to ozone formation in the atmosphere for a short period of time. Based on the low probability of occurrence, the impacts are considered adverse, but not significant (Class III).

Mitigation Measure. None required.

Residual Impact. The air quality impacts related to a pipeline accident (Impact A-5) would be less than significant (Class III).

D.3.3.5 Environmental Impacts of the Cordelia Mitigation Segment

This mitigation segment was developed to avoid sensitive biological and water resources within Cordelia Marsh and Slough. The 2.6-mile segment diverges from the proposed route at MP 17.6 and rejoins the proposed route at approximately MP 20.0. The Cordelia Mitigation Segment parallels Ramsey Road until Cordelia Road, where it continues along Cordelia Road to the UPRR ROW where it rejoins the proposed route (see Figure D.4-3).

Construction and operational emissions associated with this alternative segment would be essentially the same as those identified in Sections 3.3.3 and 3.3.4 above. Although Mitigation Measures A-1a through A-3a would be required to reduce construction exhaust and dust emissions, the impacts from construction equipment exhaust (Impact A-1) would remain significant (Class I) because the significance threshold defined by the YSAQMD would be exceeded. Because the Cordelia Mitigation Segment would be approximately 0.2 miles longer than the proposed route segment and the mitigation segment would require construction through pavement, it would generate slightly more emissions compared to the proposed route segment. Therefore, the proposed route is preferred over the Cordelia Mitigation Segment.

D.3.3.6 Impacts of Pipeline Operation

Impact A-6: Pipeline Operation

Normal operation of pipeline components would cause emissions of volatile organic compounds and other indirect emissions. These emissions could contribute to existing violations of the ozone standards. (Less Than Significant, Class III)

Impact Discussion

The proposed pipeline would operate in the same manner as the existing SFPP pipeline. A pipeline is a closed system, and the only emissions associated with routine operations of the pipeline itself would be small amounts of fugitive hydrocarbons from piping components (e.g., valves and flanges) and emissions from increased use of storage tanks serving the pipeline. In addition to fugitive emissions, offsite emissions would result from generation of the energy required for pumping operations, as well as from inspection/maintenance operations. The following paragraphs address the sources of operational emissions; total net emissions from operation are estimated after the discussions of the operational emission components.

Pipeline Equipment. Emissions from the tanks at Concord Station and associated equipment would consist of volatile organic compounds (VOCs), including benzene, toluene, xylenes, and hexane. With operation of the Proposed Project, the pipeline capacity would increase over current levels. Over time,

use of the storage tanks and pipeline would eventually increase from current levels to reach the new capacity. Increased throughput of product means that use of tanks at Concord Station would increase. SFPP prepared an estimate of future emissions related to the project after reaching the new pipeline capacity. The hydrocarbon emissions associated with use of the new pipeline are shown in Table D.3-9, which shows that operational emissions from pipeline equipment would be substantially below the significance threshold. Therefore, impacts would be less than significant (Class III).

Table D.3-9. VOC Emissions from Pipeline Equipment

Emission Source	Baseline VOC (avg lb/day)	Proposed Project VOC (avg lb/day)	Baseline VOC (tpy)	Proposed Project VOC (tpy)
Concord Station – storage tanks	202.05	208.93	36.9	38.1
Concord Station – piping and equipment	0.08	0.31	<0.02	<0.06
Sacramento Station – piping and equipment	0.04	0.08	<0.01	<0.02
Mainline – piping and equipment	N/A	0.03	N/A	<0.01
Net emission increase		**7.18**		**1.31**
Significance threshold		**80**		**15**

Note: The most stringent significance threshold recommended by BAAQMD and YSAQMD is shown.
Source: SFPP, November 2002.

Pipeline Power Consumption. Offsite emissions can be generated by power plants generating the electricity to operate the pipeline because electric pumps are used to ship the product from Concord to Sacramento. Proposed upgrades to the shipping pumps involve replacing impellers to increase their capacity. Because no upgrades are proposed for the shipping pump motors, project-related electricity consumption for shipping is assumed to be similar to existing conditions. The proposed 1,200-horsepower surge pump motor would consume approximately 895 kilowatts of electricity per hour of use. Emissions from electricity generation would occur at power plants located throughout the State. The Project Description does not include new backup generators in case of emergency during a power failure, but if such equipment would be necessary for the Proposed Project, the local stationary source permitting requirements would apply. Offsite emissions from power plants are shown in Table D.3-10; they were calculated with factors for electricity generation published by the South Coast Air Quality Management District in 1993. The emissions and the associated air quality impact would be less than significant (Class III).

Table D.3-10. Emissions from Pipeline Power Consumption

Emission Source	NOx (lb/day)	VOC (lb/day)	PM_{10} (lb/day)	CO (lb/day)	SOx (lb/day)	NOx (tpy)	VOC (tpy)	PM_{10} (tpy)	CO (tpy)	SOx (tpy)
Offsite electricity generation	24.7	0.21	0.9	4.3	2.6	4.5	0.04	0.16	0.78	0.47
Significance threshold	**80**	**80**	**80**	**None**	**None**	**15**	**15**	**15**	**None**	**None**

Notes:
The most stringent significance threshold recommended by BAAQMD and YSAQMD is shown.
Indirect emissions from electricity generation may occur at power plants throughout the State (895 kW per hour, 8,760 hours per year).
Source: Aspen Environmental Group, 2003.

Pipeline Workers. Offsite emissions can also be generated by workers commuting to new jobs related to operation of the Proposed Project. Compared to the existing conditions, no additional employees would be required for SFPP to operate the Proposed Project. Therefore, there would be no additional emissions generated from workers commuting, and no air quality impact would occur.

Inspections. Inspections of the pipeline route including crossings of utility and transportation corridors would occur at least biweekly. Emission sources that would be associated with inspection are the transportation vehicles used by inspection personnel. Emissions from light-duty vehicles used on the inspections would be similar to those occurring under the existing conditions. The emissions and the associated air quality impact would be less than significant (Class III).

Maintenance Operations. While maintenance operations would be performed principally at the stations and pig launching and receiving points, maintenance work would also sometimes occur along the pipeline. Equipment occasionally used for maintenance would generate emissions from fuel combustion. The emissions during maintenance would be similar to those occurring under the existing conditions, and they would continue to occur only intermittently. This impact would be less than significant (Class III).

Air Toxics and Odors. There are toxic hydrocarbon compounds in petroleum products (e.g., benzene). Certain products may also carry a distinctive odor (e.g., gasoline). Buried pipelines have extremely low levels of emissions; the only routine emissions would be the fugitive hydrocarbons that could escape from storage tanks at each station and valve connections along the pipeline (see Table D.3-9). The emissions from valve connections would be very small, and they would be released at only a few points dispersed along the entire length of the pipeline. Only a portion of these emissions are toxic or contain odors. Thus, the resulting routine pollutant concentrations at any particular point in the vicinity of the pipeline would be extremely low. Exposure to air toxics over a long duration is normally required to produce significant health effects (70 years is considered for carcinogenic effects). Odors would be sufficiently diluted within the pipeline right-of-way and within the property of the SFPP stations so that they would not normally be detectable offsite. Because the net increase in routine emissions would be minimal (as shown in Table D.3-9), the resultant risk and potential for objectionable odors would both be less than significant (Class III).

Net Emissions Increase from Pipeline Operation. The proposed pipeline would result in a minor emissions increase upon operation. The net increase in VOCs from pipeline equipment along the mainline and at the stations (2,610 pounds per year) is equivalent to an average daily emissions level of approximately 7 pounds per day. This level of emissions is well below the suggested significance threshold criteria of 80 pounds per day.

Table D.3-11 summarizes the net emission increase of operational emissions associated with the Proposed Project. Because the operational emissions associated with the Proposed Project would be below the significance thresholds recommended by the local air districts, the impacts would be adverse, but less than significant (Class III).

Table D.3-11. Net Emissions Increase from Operation of Proposed Project

Emission Source	NOx (lb/day)	VOC (lb/day)	PM_{10} (lb/day)	CO (lb/day)	SOx (lb/day)	NOx (tpy)	VOC (tpy)	PM_{10} (tpy)	CO (tpy)	SOx (tpy)
Concord Station	---	7.11	---	---	---	---	1.3	---	---	---
Sacramento Station	---	0.04	---	---	---	---	0.01	---	---	---
Mainline	---	0.03	---	---	---	---	0.01	---	---	---
Offsite electricity generation	24.7	0.21	0.9	4.3	2.6	4.5	0.04	0.16	0.78	0.47
Total net emission increase	**24.7**	**7.4**	**0.9**	**4.3**	**2.6**	**4.5**	**1.3**	**0.2**	**0.8**	**0.5**
Significance threshold	**80**	**80**	**80**	**None**	**None**	**15**	**15**	**15**	**None**	**None**

Note: The most stringent significance threshold recommended by BAAQMD and YSAQMD is shown.
Source: Aspen Environmental Group, 2003.

Mitigation Measure. None required.

Residual Impact. The air quality impacts related to normal pipeline operation (Impact A-6) would be less than significant (Class III).

D.3.3.7 Impacts of Proposed Station Changes and Valves

Proposed station changes would involve equipment upgrades to the existing Concord and Sacramento Stations. Because most of the emissions from pipeline operation would occur from existing equipment (i.e., storage tanks) at the stations, those emissions are addressed along with pipeline operational emissions in Section D.3.3.6 above. Air quality impacts from construction of the station modifications are discussed in Section D.3.3.3 above. The following discussion reviews impacts from operation of the station modifications.

SFPP has also proposed installation of 13 valves along the pipeline route. Construction emissions addressed in Section D.3.3.3 include valve construction, and operational emissions from valves are addressed in Section D.3.3.6

Concord Station

Proposed upgrades to the Concord Station would include a new surge pump, a new hydraulic power system for the new surge system, and new piping, meters, instrumentation, and controls. Emission increases associated with increased use of the existing storage tanks at the Concord Station and operation of the proposed new 1,200 hp surge pump are discussed in Section D.3.3.6 above with other operational emissions. Other new piping and equipment would cause minor increases in fugitive VOC emissions. As shown in Table D.3-11 above, the net emission increases at the Concord Station would be less than significant (Class III).

Sacramento Station

Proposed upgrades to the Sacramento Station would include new product meters, instrumentation and controls. Minor fugitive VOC emission increases associated with new piping and equipment at the Sacramento Station are discussed in Section D.3.3.6 above with other operational emissions. As shown in Table D.3-11 above, the net emission increases at the Sacramento Station would be less than significant (Class III).

D.3.3.8 Cumulative Impacts

Construction of the Proposed Project would cause significant short-term air quality impacts. Construction impacts could overlap with adverse air quality impacts from other cumulative projects in the region. Existing emission sources, project-related construction, and any overlapping cumulative projects could all jointly contribute to exacerbating existing violations of the ambient air quality standards for ozone. Because project emissions would contribute substantially to existing violations during the short-term construction phase, the short-term impact (Impact A-1) would also be cumulatively considerable (Class I). Because this is a significant impact, **a Statement of Overriding Considerations would be required for project approval.**

Air quality impacts during operation of the Proposed Project would be minimal, limited to electricity consumption and minor emissions of hydrocarbons. As such, no significant cumulative air quality impacts would occur during pipeline operation.

D.3.4 Environmental Impacts and Mitigation Measures for Existing Pipeline ROW Alternative

The air quality impacts and mitigation measures for the Existing Pipeline ROW Alternative would be similar to those of the Proposed Project, since the two routes would involve construction activity using similar equipment. Although the construction activities may be less intense for this alternative compared to the Proposed Project because most construction would be in railroad ROW, the construction impacts would likely be significant. With the recommended mitigation, impacts related to construction of the Existing Pipeline ROW Alternative (Impacts A-1 through A-4) would be similar to those of the Proposed Project. Even with implementation of Mitigation Measures A-1a through A-3a, construction impacts from equipment exhaust (Impact A-1) would remain significant (Class I).

Air quality impacts related to operation of the Existing Pipeline ROW Alternative (Impacts A-5 and A-6) would be similar to those of the Proposed Project (Class III).

D.3.5 Environmental Impacts of the No Project Alternative

The No Project Alternative could involve only minor amounts of pipeline and pump station construction activities that could cause temporary adverse impacts. This would avoid the significant (Class I) construction impacts associated with the Proposed Project (Impacts A-1 through A-4) and reduce construction impacts to less than significant. However, without the Proposed Project, tanker truck traffic in the region could increase, and an accident could be more likely to occur. Similar to the Proposed Project, the emissions associated with accidents and from temporary activities associated with potential clean-up of accidents (Impact A-5) are considered to be adverse, but less than significant (Class III).

Growth in tanker truck use under the No Project Alternative would substantially increase operational emissions (Impact A-6), especially along major transportation corridors. The emission increase from increased trucking would be proportional to the ultimate distance of transport and the quantity of product shipped beyond the current capacity of the existing pipeline. The quantity of emissions could be substantial, but SFPP would have no control over them as they would be caused by third-party haulers competing to transport product. If over 97,000 tanker truck trips[1] were needed to transport the additional pipeline volume each year, the resulting NOx emissions would significantly contribute to existing ozone violations. Over 40 tons per year of NOx emissions would be associated with increased trucking. These emissions would depend on truck trip lengths and the types of trucks used. Because there is no practical way to control trucking in the No Project Alternative, this air quality impact (Impact A-6) would be significant, and it could not be mitigated (Class I).

D.3.6 Mitigation Monitoring, Compliance, and Reporting Table

Table F-2 (in Section F) summarizes the recommended mitigation measures with the actions that would be necessary to ensure compliance.

[1] 48,000 BPD = 267 trucks per day @ 180 bbl/truck = 97,455 trucks per year.